

Amendment and Response

Applicant: Michael Goessel et al.

Serial No.: 10/577,288

Filed: April 24, 2006

Docket No.: I431.135.101/FIN516PCT/US

Title: EVALUATION CIRCUIT AND METHOD FOR DETECTING AND/OR LOCATING FAULTY DATA WORDS IN A DATA STREAM T_N

REMARKS

The following remarks are made in response to the Non-Final Office Action mailed September 11, 2008. Claims 1-29, 54, and 61-63 have been cancelled. Claims 30-63 were rejected. With this Response, claims 30, 32-35, 37-48, 51-53, and 55-60 have been amended. Claims 30-53 and 55-60 remain pending in the application and are presented for reconsideration and allowance.

Claim Objections

The Office Action objected to claims 34, 39, 41-44, 46-48, and 54-58 because of informal errors. These claims have been amended as suggested in the Office Action, thus overcoming the objections.

Claim 39 was objected to as being a substantial duplicate of claim 37. Claim 39 has been amended such that it is dependent on claim 37, thus overcoming the objection.

Claim 45 was objected to because of an informal error. Claim 45 has been amended as suggested in the Office Action, thus overcoming the objection.

Claim 54 was objected to as being an improper multiple dependent claim. Claim 54 has been canceled, thus overcoming the objection.

Claim Rejections under 35 U.S.C. § 112

The Office Action rejected claims 32-34, and 37-47 under 35 U.S.C. § 112, second paragraph due to the terms “coded,” “coding” and “codes.” These claims have been amended as suggested by the Examiner.

Claim 32 was rejected because the phrase “the data word” had insufficient antecedent basis. Claim 32 has been amended to recite *a* data word....

Claims 41-44 and 47 were rejected because the phrase “the second coder” had insufficient antecedent basis. Claim 41 has been amended to depend from claim 39, which provides proper antecedent basis.

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Claims 51 and 56 were rejected due to the use of the phrase “and/or.” Claims 51 and 56 have been amended to replace “and/or” with “or.”

Claim 51 was rejected because the terms “K1” and “K2” had insufficient antecedent basis. Claim 51 has been amended to delete these terms.

Claim 52 was rejected due to the use of the phrases “register/registers” and “has/have” Claim 52 has been amended to remove this language.

Claim 53 was rejected due to insufficient antecedent bases for “k,” “the first coder” and “t.” Claim 53 has been amended to provide antecedents for “k” and “t.” Regarding “the first decoder”, the first method step in claim 53 recites “inputting data words ... into *a first coder*.” This provides a proper antecedent for “the first decoder” recited later in the claim.

Claim 63 has been cancelled, rendering its rejection moot.

Applicants thus believe all of the rejections under 35 U.S.C. § 112 have been overcome. Accordingly, allowance of these claims is respectfully requested.

Claim Rejections under 35 U.S.C. § 101

The Office Action rejected claims 53, 54, and 59-63 under 35 U.S.C. § 101. Claims 54 and 61-63 have been cancelled, rendering their rejections moot.

The Office Action stated that claim 53 was rejected because it failed to recite a tangible element for the product. Applicants respectfully submit that the many transformations recited in the claim satisfy the test set forth in *In re Bilski*. However, to more clearly recite the invention, claim 53 has been amended to recite a method for testing an integrated circuit device, including the step of evaluating an integrated circuit in response to detected faults. Applicants therefore believe claim 53 recites statutory subject matter.

Claim 59 has been amended to recite a storage medium storing a program for executing the method of claim 53, and claim 60 has been amended to further describe the storage medium. As such, claims 59 and 60 both recite physical media and are therefore statutory.

Therefore, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 101 rejection to the claims. Since there were no prior art rejection of these claims and

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the rejections under 35 U.S.C. § 112 have been overcome, Applicants believe claims 53, 59 and 60 are in condition for allowance.

Claim Rejections under 35 U.S.C. § 102

The Office Action rejected claim 30 under 35 U.S.C. § 102(b) as allegedly being anticipated by the Hasegawa et al. U.S. Patent Application Publication No. 2004/0246337 (Hasegawa). Applicants respectfully traverse this rejection.

It is well accepted that, to anticipate a claim, the cited reference must disclose each claim element. MPEP 2131. Hasegawa fails to disclose each element of claim 30 and therefore, it cannot anticipate claim 30.

Among other things, claim 30 includes “a common input line for receiving a data stream.” The cited portion of Hasegawa does not disclose the first linear automation circuit and the second linear automation circuit having a common input line for receiving a data stream. In Figure 4 of Hasegawa, the collective compression unit 16 and not the scan chain compression unit 2 receives the signals dpa to dpn. Consequently, only one of the blocks receives the data stream and not both. Figure 4 of Hasegawa discloses a different mode of the integrated circuit than is shown in Figure 5 thereof. The integrated circuit of Hasegawa is not in both modes at the same time, the second linear automation circuit and the first linear automation circuit are never connected in parallel.

Further, Hasegawa does not disclose the claim element “wherein the first linear automaton circuit and the second linear automation circuit are configured such that a first signature can be calculated from each data word and a second signature can be calculated from each data word.” In Hasegawa, the collective compression unit 16 compresses the text results dpa to dpn. Hasegawa at [0065]. However, the scan chain compression unit 2 compresses only one of the outputs dpa to dpn. In Hasegawa, the scan chain compression unit 2 compresses the data that is received by the text result dpa subsequently. It also compresses the data that is received at the text result dpn. To illustrate the difference in Figure 5, unit 2 compresses dpa horizontally and dpn horizontally. It does not generate a signature of the parallel, vertically

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illustrated, data dga to dpn. However, unit 2 does not calculate a signature of a data word dpa to dpn. See Hasegawa at [0066].

Since Hasegawa fails to disclose each element of claim 30, Applicants respectfully submit claim 30 is in condition for allowance.

Claim Rejections under 35 U.S.C. § 103

The Office Action rejected claims 31, 32, 35-37, 39, 41-45, 48-52, and 55 under 35 U.S.C. § 103 for allegedly being unpatentable over the Hasegawa et al. U.S. Patent Application Publication No. 2004/0246337, in view of the Meaney U.S. Patent No. 6,055,660 (Meaney). Claims 33, 34, 38, 40, 46, and 47 were rejected under 35 U.S.C. § 103 for allegedly being unpatentable over Hasegawa and Meaney in view of Applicant Admitted Prior Art. Claim 56 was rejected under 35 U.S.C. § 103 for allegedly being unpatentable over Hasegawa and Meaney, in view of the Eldridge et al. U.S. Patent Application Publication No. 2001/0052786 (Eldridge). Claim 57 was rejected under 35 U.S.C. § 103 for allegedly being unpatentable over Hasegawa and Meaney in view of the Beer U.S. Patent Application Publication No. 2002/0153918 (Beer). Claim 58 was rejected under 35 U.S.C. § 103 for allegedly being unpatentable over Hasegawa, Meaney and Eldridge, in view of the Davis et al. U.S. Patent No. 6,194,910 (Davis). Applicants respectfully traverse these rejections.

Claims 31-34 depend from claim 30, which is allowable as set forth above. Claims 31-34 are allowable for at least the same reasons.

As also noted above in conjunction with the response to the rejection under section 102, the cited portion of Hasegawa does not disclose the first linear automation circuit and the second linear automation circuit having a common input line for receiving a data stream as recited in claim 35. Further, Hasegawa does not disclose a first automation circuit and a second automation circuit connected in parallel. Hasegawa also fails to disclose the first linear automaton circuit and the second linear automation circuit configured such that a first signature

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can be calculated from each data word and a second signature can be calculated from each data word.

The Office Action appears to rely on the teachings of Hasegawa for each of these claim elements. As such, claim 35, as well as claims 36-52 and 56-58 dependent thereon, are in condition for allowance.

Moreover, the Office Action admits that Hasegawa fails to disclose each element of claim 35, but relies on Meaney for the remaining elements. However, there is no reasonable way to combine Hasegawa with Meaney. Meaney teaches connecting the inputs of the XOR blocks 26 and 26' to different chips and not to connect them in parallel.

Therefore, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 103 rejection to the claims, and request allowance of these claims.

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CONCLUSION

In view of the above, Applicant respectfully submits that all of the pending claims are in form for allowance. Therefore, reconsideration and withdrawal of the rejections and allowance of the claims is respectfully requested.

No fees are required under 37 C.F.R. 1.16(h)(i). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 50-0471.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to Mark L. Gleason at Telephone No. (612) 767-2503, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

Dicke, Billig & Czaja
Fifth Street Towers, Suite 2250
100 South Fifth Street
Minneapolis, MN 55402

Respectfully submitted,

Michael Goessel et al.,

By their attorneys,

DICKE, BILLIG & CZAJA, PLLC
Fifth Street Towers, Suite 2250
100 South Fifth Street
Minneapolis, MN 55402
Telephone: (612) 573-2000
Facsimile: (612) 573-2005

Date: 12/11/2008
MLG:cjs

/Mark L. Gleason/
Mark L. Gleason
Reg. No. 39,998